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BUFFALO ELECTRIC FANS



Catalog No. 181-E

BUFFALO
FORGE
COMPANY
BUFFALO, N.Y.



“Buffalo” Electric Fans

**For Blowing, Exhausting,
Ventilating, Cooling, Drying**

**“A Fan for
Every Service”**

BUFFALO FORGE COMPANY

BUFFALO, N. Y.

NEW YORK PHILADELPHIA CHARLOTTE, N. C. PITTSBURG
CINCINNATI CHICAGO ST. LOUIS DENVER LOS ANGELES

Canadian Factory and Main Office

CANADIAN BUFFALO FORGE CO., Limited

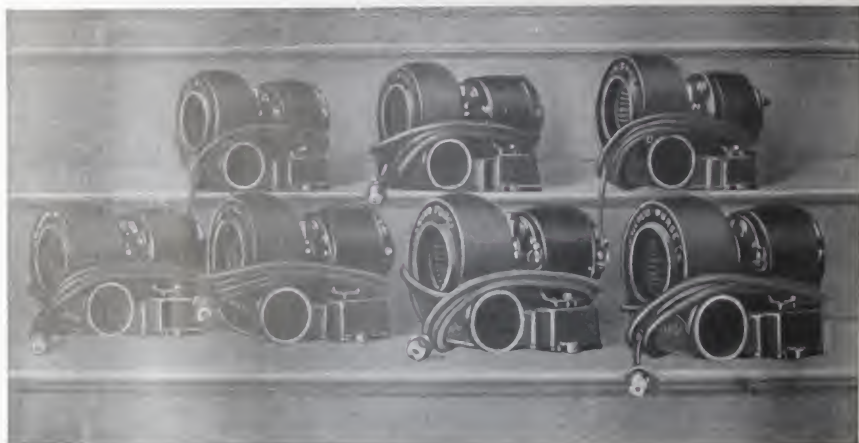
MONTREAL

ST. JOHN TORONTO WINNIPEG VANCOUVER



BUFFALO FORGE COMPANY

Buffalo Small Electric Blowers



"Ready for Shipment."

"Baby Conoidal" Volume Type.

The "Baby Conoidal" furnishes an ideal ventilating unit. It is so silent and smooth running that the sharpest ear is puzzled to know whether or not the fan is running.

The "Conoidal" design is the latest word in high efficiency multi-blade fan construction. The larger sizes of this fan met with such instant and signal success wherever the best was appreciated, that we perfected this small electric outfit for general ventilating, blowing and exhausting purposes.

The characteristics of this fan is to furnish a very large volume of air at a relatively low pressure, the efficiency of the fan exceeding that of any other multi-blade type.

They are neatly finished in black enamel, and are as attractive in appearance as they are efficient in operation. They are unexcelled for general drying purposes, and for supplying fresh, cool air to offices, private homes, telephone booths, staterooms, banquet rooms, railroad cars, kitchens, laboratories, etc., etc.

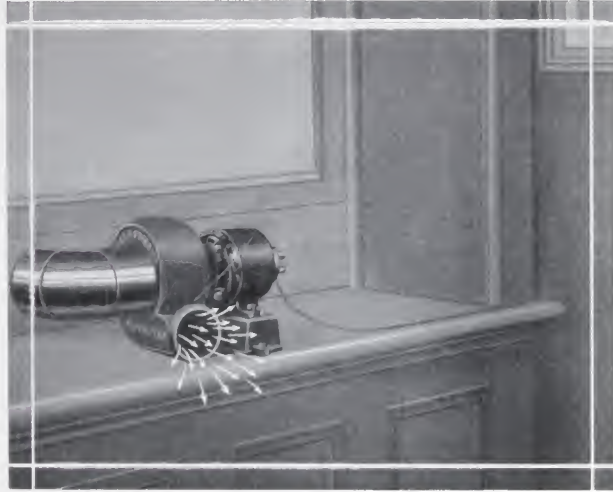
Equally good results are obtained where it is desired to exhaust smoke, fumes and hot air.

We furnish at a slight extra cost, a small pipe connection at the end which fits into the sash of the window. This pipe is extended so as to accommodate three separate screens for filtering the incoming air. The same pipe connection can be used for exhausting from the room, as the inlet and outlet of the fan are of same diameter and therefore will fit the same pipe. When exhausting, it is well to remove the filtering screens.



Buffalo Small Electric Blowers

In a fan of this character which is so frequently used where silence is absolutely essential, the importance of noiseless operation cannot be too strongly emphasized, all the more as the noise of some fans is so pronounced as to make their use objectionable where needed the most. The relatively slow speed of the "Baby Conoidal" is one of the points which contribute to its silence; its "hum" cannot be heard except by laying your ear close up against it. The perfect balance of the fan, as well as the high class workmanship, are further marks of high perfection.



This shows a simple elbow connection which anyone can fix up, whereby fresh air is taken directly from the outside and blown into the room. The fan can be turned around and arranged to exhaust smoke, hot air, etc., and in the latter case is usually set on a bracket at the top of the window.



One of the numerous uses of Buffalo Electric Blowers is blowing forge fires on brick as well as portable forges.

A most convenient feature is that, by loosening a thumb screw, the fan case can be swung around to discharge in any desired direction.

Wire and plug are furnished free with each outfit, so that it can be attached to a lamp socket without expense for installing. All the motors are furnished for 110 or 220 Volts. The A. C. motors are all single phase, 60 cycles. Give particulars about current when ordering.



BUFFALO FORGE COMPANY

Buffalo Small Electric Blowers

Ventilating and removing - Smoke, Steam, Fumes and Gases in:

Banquet Rooms,
Club Rooms,
Dining Rooms,
Kitchens,
Restaurants,
Laboratories,
Ice factories,
Workrooms,
Telephone Booths,
Stairways,
Cabins,
Trunks,
Etc., Etc.



Blowing and Cooling:

Feathers,
Fire Places,
Gas Burners,
Grates,
Furnaces,
Boiler Rooms,
Candy Molds,
Conduits,
Engine Rooms,
Motors.

Evaporating and Drying in:

Barber Shops,
Dry Cleaning Establishments,
Hair Dressing, Parlors,
Photographic Studios,
Etc., Etc.

“Baby Conoidal” Volume Type.

SPECIFICATIONS.

Size	Capacity Air Per Minute	Horse Power	Speed Rev. Per Minute	Shipping Weight	Height	List Prices	
						D. C.	A. C.
No. 1	90 cu. ft.	$\frac{1}{8}$	1800	25 lbs.	8 $\frac{1}{4}$ in.	\$50.00	\$50.00
No. 2	250 cu. ft.	$\frac{1}{4}$	1800	45 lbs.	10 $\frac{1}{2}$ in.	75.00	90.00
No. 3	500 cu. ft.	$\frac{1}{2}$	1800	65 lbs.	15 in.	100.00	120.00

Large “Conoidal” Fans.

These are built to order and find extensive use for heating and ventilating, cooling and drying purposes. The strong construction and exceedingly efficient design make them superior to any other type of multi-blade fan. They are described separately in our catalog No. 199.





Buffalo Electric "B" Volume Blowers

For many applications the speed of these fans is nicely suited for direct connection to motors, and we have made a specialty of furnishing a complete, self-contained outfit; blower and motor both being bolted to the same cast iron sub-base, preventing either from working out of place. The blast wheel may be overhung on the motor shaft or, in the case of blowers with two inlets, a coupling is ordinarily used. Motors are ordinarily open or semi-enclosed, but when working in very dusty rooms enclosed motors are recommended.

Among the common uses for the Buffalo "B" Volume Electric Fans may be mentioned forced draft, ventilation for laboratories, toilets and kitchens, blowing forge fires, drying, organ blowing, etc.

Extended co-operation with leading manufacturers of motors in the introduction of electric blowers has led to the perfection of a number of standard designs, adapted to a wide variety of conditions and uses. They are capable of continuous use with only ordinary attention, and may be installed in positions where other sources of power would be unavailable. To afford means of changing the capacity and pressure delivered, variable speed motors can be furnished, and a location may be chosen so as to greatly simplify the pipe connections.

Inquiries should always state the voltage, if direct current is used or, if alternating current, the voltage, number of cycles and the phase.



BUFFALO FORGE COMPANY

Buffalo Electric "B" Volume Blowers



Buffalo Electric "B" Volume Blowers.

Speeds, Capacities and Horsepower of "B" Volume Blowers.

No. of Blower	½ Oz.			1 Oz.			2 Oz.		
	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.
1	1693	104	.023	2396	148	.074	3393	210	.233
2	1397	264	.059	1976	374	.187	2800	534	.593
3	980	438	.098	1387	621	.310	1965	888	.987
4	859	585	.130	1216	823	.414	1724	1174	1.300
5	776	837	.186	1098	1185	.593	1556	1688	1.870
6	635	1185	.263	898	1677	.839	1274	2382	2.650
7	582	1372	.305	823	1941	.971	1168	2752	3.060
8	499	1986	.440	706	2810	1.405	1001	3983	4.430
9	411	3299	.733	581	4668	2.334	824	6641	7.300
10	349	4488	.997	494	6350	3.175	702	9003	9.900
	3 Oz.			4 Oz.			6 Oz.		
	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.
1	4169	258	.382	3977	753	1.37			
2	3437	651	.964	2794	1261	2.29	3436	1551	3.86
3	2414	1090	1.615	2452	1667	3.03	3015	2051	5.13
4	2119	1441	2.135	2212	2397	4.36	2721	2948	7.37
5	1912	2071	3.08	1809	3382	6.15	2225	4160	10.40
6	1563	2923	4.33	1660	3908	7.10	2041	4806	12.00
7	1434	3377	5.00	1422	5656	10.20	1748	6957	17.40
8	1229	4888	7.24	1171	9431	17.10	1440	11599	28.90
9	1012	8150	12.10	966	12786	21.90	1225	15726	37.00
10	861	11050	15.00						

Prices quoted on receipt of information concerning quantity of air, pressure required, characteristics of electric current, etc.



Buffalo Electric "B" Volume Exhausters



"B" Volume Exhauster, Up Discharge.

The general remarks on page 7 relative to the construction of "B" Volume Blowers, and the use of motors for driving them are also applicable to the Exhausters.

To enumerate the uses of the latter would be impossible, as hardly a day passes but what some new special application is not found for them. In all cases, however, the same principle is involved, namely, that of moving air, gases, and light materials from one place to another. They therefore find extensive use as smoke exhausters in forge shops, in removing dust from abrasive and buffing wheels, furnishing induced draft for furnaces and boilers, etc.



BUFFALO FORGE COMPANY

Buffalo Electric "B" Volume Exhausters



"B" Volume Exhauster, Bottom Horizontal Discharge
Speeds, Capacities and Horsepower of "B" Volume Exhausters.

No. of Blower	½ Oz.			1 Oz.			2 Oz.		
	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.
1	1693	104	.023	2396	148	.074	3393	210	.233
2	1397	264	.039	1976	374	.187	2800	534	.593
3	980	438	.098	1387	621	.310	1965	888	.987
4	859	585	.130	1216	828	.414	1724	1174	1.300
5	776	837	.186	1098	1185	.593	1556	1688	1.870
6	635	1185	.263	898	1677	.839	1274	2382	2.650
7	582	1372	.305	823	1941	.971	1168	2752	3.060
8	499	1986	.440	706	2810	1.405	1001	3983	4.430
9	411	3299	.733	581	4668	2.334	824	6641	7.300
10	349	4488	.997	494	6350	3.175	702	9003	9.900
	3 Oz.			4 Oz.			6 Oz.		
	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.
1	4169	258	.382						
2	3437	651	.964	3977	753	1.37			
3	2414	1090	1.615	2794	1261	2.29	3436	1551	3.86
4	2119	1441	2.135	2452	1667	3.03	3015	2051	5.13
5	1912	2071	3.08	2212	2397	4.36	2721	2948	7.37
6	1563	2923	4.33	1809	3382	6.15	2225	4160	10.40
7	1434	3377	5.00	1660	3908	7.10	2041	4806	12.00
8	1229	4888	7.24	1422	5656	10.20	1748	6957	17.40
9	1012	8150	12.10	1171	9431	17.10	1440	11599	28.90
10	861	11050	15.00	966	12786	21.90	1225	15726	37.00

Prices quoted on receipt of information concerning quantity of air, pressure required, characteristics of electric current, etc.



Buffalo Steel Pressure Blowers

Buffalo Steel Pressure Blowers are built with a solid peripheral shell or casing. The side plates fit this shell tightly and are securely bolted in place. This avoids the use of putty joints and the smooth inner surface offers no friction.

A great advantage of the Buffalo Pressure Blower is the ease of repairs, the wheel and shaft being removable through the side opening made by removing either one of the side plates, and without completely dismantling the blower.

The blast wheel is of heavy rolled steel plate mounted upon a malleable iron spider or hub. The backward turned blades or vanes are securely riveted to heavy steel side flanges, the principal blades being also riveted to an arm of the spider. Every detail of construction of these blast wheels insures perfect balance, ease and smoothness of operation, combined with strength and rigidity.

Each blast wheel is carefully tested for both strength and balance beyond that required by the service to be performed. This insures a perfect, durable, easy-running blower.

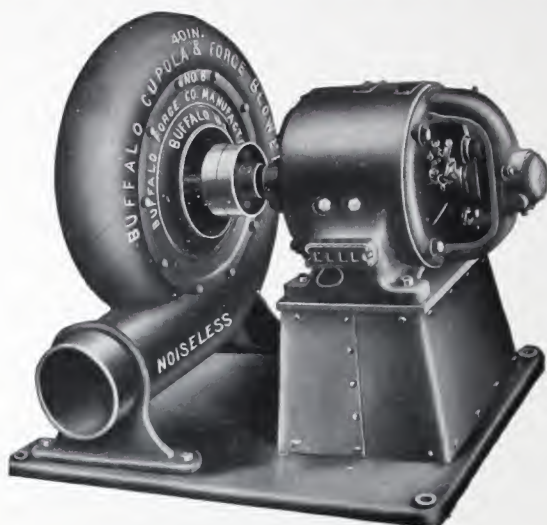
Buffalo Pressure Blower bearings are ring-oiling, with reservoirs of capacity for a month's run. The journals are extra long and lined with the best babbitt metal. They are mounted upon rigid arms or brackets and babbitted in position, making lack of alignment absolutely impossible.

The ring of this bearing operates perfectly quiet until the oil supply becomes low. Any noise or rattling of the ring, therefore, is a signal for re-oiling, though the bearings will run for some time after the signal is noticed.



BUFFALO FORGE COMPANY

Buffalo Steel Pressure Blower



Direct-Connected to Motor.

Only one bearing is provided, at the opposite end from the motor. This bearing is of the dust-proof, oil-ring type, used on all Buffalo Steel Pressure Blowers. Motor and blower are mounted upon a common sub-base. Motor is connected to blast wheel with flange coupling.

When ordering, state nature of current and specify voltage. If alternating current also, give phase and cycles and alternations per minute.

No. of Blower		SPEEDS, CAPACITIES AND HORSEPOWERS								Prices quoted on receipt of information concerning quantity of air, pressure required, characteristics of electric current, etc.
		4 oz.	6 oz.	7 oz.	8 oz.	9 oz.	10 oz.	11 oz.	12 oz.	
6	Speed	2573								
	Cap.	839								
	H.P.	1.75								
7	Speed	2275	2750							
	Cap.	1000	1275							
	H.P.	2.25	4.30							
8	Speed	2060	2500	2697						
	Cap.	1500	1918	2065						
	H.P.	3.25	6.50	8.00						
9	Speed	1850	2240	2414	2580					
	Cap.	2130	2720	2930	3120					
	H.P.	4.75	9.00	11.25	13.60					
10	Speed	1384	1675	1800	1928	2040				
	Cap.	3100	3960	4275	4560	4790				
	H.P.	6.75	12.9	16.20	19.60	23.00				
11	Speed	1150	1390	1500	1600	1700	1790	1878		
	Cap.	3850	4880	5260	5610	5900	6250	6540		
	H.P.	8.50	15.75	19.80	24.00	28.50	33.50	38.50		
12	Speed	940	1130	1220	1300	1380	1450	1525	1590	
	Cap.	5000	6360	6860	7320	7690	8150	8540	8900	
	H.P.	10.75	20.50	25.00	31.30	36.90	43.50	50.00	57.00	



Buffalo Two-Stage Turbine Blower

This blower delivers air at double the pressure of an ordinary centrifugal blower with a blast wheel of equal diameter, running at the same speed. This result is obtained by the special design and construction of the blower.

The housing is of heavy cast iron designed and constructed to resist the strains of high pressure duty. It is constructed in sections and so provides quick and easy access to the interior for the inspection and removal of parts.

The air is handled in two different stages by two blast wheels mounted upon a single shaft. These blast wheels are built of heavy steel plate, wings and rims mounted on a steel spider.

The vanes of wheel are secured to the hub tangently and are so curved that the velocity of the air is gradually increased until it is slightly above that of the wheel, when it is discharged into the pressure chamber surrounding the first wheel, whence it is drawn into the second stage and again discharged at a pressure double that obtained in the first stage.

These blowers are equipped with dust proof oil-ring bearings, with large oil reservoirs. These bearings require little attention beyond an occasional oiling. Whenever the width of the blower requires, an additional bearing is located in the pressure chamber between the two stages.

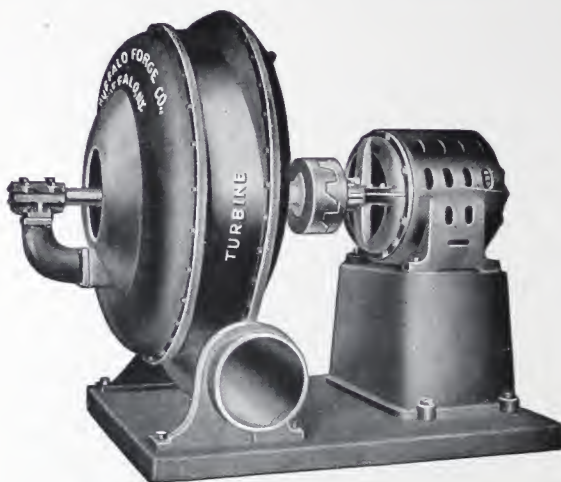
High pressure is obtained with this blower without excessive speed, making it possible to drive the blower with a direct-connected electric motor. This motor is connected to the blower with a flexible coupling of special design, which also acts as an insulator between the motor and the blower.

Another advantage offered by this outfit is the saving of floor space. It occupies the same amount of space as an ordinary blower with a blast wheel of the same diameter without the necessary belts and counter-shaft.



BUFFALO FORGE COMPANY

Buffalo Two-Stage Turbine Blower



Direct-Connected to Motor for High Pressure Duty

Table of Speed, Capacities and Horsepower for Cupola Service

Size	Cubic Feet Air Per Min.	Oz. Pres. Per Sq. In.	Revolutions Per. Min.	Horse- power	List Price of Blower with- out Sub-base
35 In.	1500	10	2400	8	\$ 210.00
40 "	2700	12	2400	15	270.00
45 "	3600	14	2200	27	345.00
55 "	4800	16	1800	42	480.00
65 "	6400	16	1800	56	675.00
75 "	8000	16	1200	70	825.00
85 "	10000	16	1200	85	975.00
95 "	12000	16	900	98	1125.00
105 "	15000	16	900	120	1300.00

Furnished with electric motors for direct or alternating current. Prices quoted on receipt of particulars. Give characteristics of electric current available.



Buffalo Steel Plate Pressure Blowers

Constructed throughout to resist the strains of high pressure duty. The housing is built of heavy gauge steel plate, securely riveted and bolted together, also stiffened at every point of strain by a strong angle iron frame.

The blast wheel is built of heavy steel plate mounted upon a heavy malleable iron spider or hub. The blades or vanes are securely riveted to heavy steel plate flanges, and the principal blades are also riveted securely to the arms of the spider. This construction assures a strong, rigid wheel.

Every blast wheel is carefully tested for strength, balance and smooth running. A true wheel running without vibration at the highest speeds, is thus secured.

This fan economically delivers air at pressures up to 16 ounces. It is usually direct-connected to an electric motor, but is also built for direct connection to a steam engine, or for pulley drive.

The motor and blower are mounted upon the same base, which is built of heavy steel plate, reinforced with heavy angle iron, a strong, rigid construction.

The motor is connected to the shaft of the blast wheel by a flexible coupling of special design, which acts also as an insulator between the motor and blower.

The bearings are ring-oiling with extra long journals, and large oil reservoirs. Beyond occasional oiling these bearings require little attention. One is located at each end of the blast wheel shaft and is supported by a heavy bracket securely fastened to the blower casing. True alignment is thus maintained.

When ordering, state nature of current on which motor will operate, as well as the voltage. If alternating current, give also the phase and cycles or alternations per minute.

See Next Page for Prices and Sizes.

927 Monadnock Building, Chicago, Ill.

March 17, 1909.

BUFFALO FORGE COMPANY, Chicago, Ill.

Gentlemen:—We take pleasure in advising you that the high pressure fans which you have furnished us for use in connection with several of our vacuum ash handling systems throughout the country are and have been operating very satisfactorily and that we have experienced no difficulty whatever in maintaining the high vacuum necessary for our system.

The H. P. required to drive these fans under these conditions has by the design of fan used been reduced to a minimum and we can highly recommend them as being of superior design and efficiency.

Yours very truly,

THE ECONOMIC ENGINEERING & CONSTRUCTION CO.,

Per

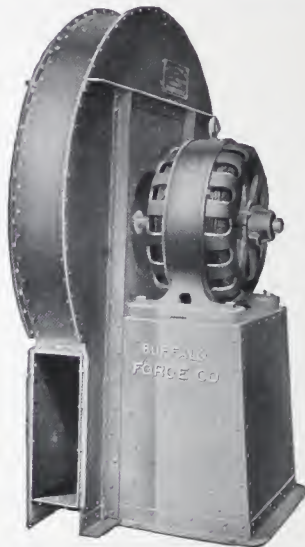
(Signed) W. A. SHARP, Pres.



BUFFALO FORGE COMPANY

Buffalo Steel-Plate Pressure Blowers

Direct-Connected to Electric Motor.



Number of Blower		Pressure Per Sq. Inch				Diam. of Inlets	Area Outlet Sq. In.	List Price of Blower without Sub-base
		10-oz.	12-oz.	14-oz.	16-oz.			
5	R. P. M.	1700	1700			10.3 in.	47	\$320.00
	Cu. Ft. Air	2700	2700	2700				
	Horse Power	14.6	17.5	20.0				
	Diam. of Wheel	36.5 in.	40 in.	43.2 in.				
6	R. P. M.	1700	1700	1700		11.4 in.	63	360 00
	Cu. Ft. Air	3600	3600	3600				
	Horse Power	19.5	23.4	27.3				
	Diam. of Wheel	36.5 in.	40 in.	43.2 in.				
7	R. P. M.	1700	1700	1700		12.6 in.	84	400 00
	Cu. Ft. Air	4800	4800	4800				
	Horse Power	26	31	36.2				
	Diam. of Wheel	36.5 in.	40 in.	43.2 in.				
8	R. P. M.	1700	1700	1700		13.75 in.	112	440 00
	Cu. Ft. Air	6400	6400	6400				
	Horse Power	34.6	41.5	48.4				
	Diam. of Wheel	36.6 in.	40 in.	43.2 in.				
9	R. P. M.		1120	1120	1120	17 in.	126	500 00
	Cu. Ft. Air		8000	8000	8000			
	Horse Power		52	60.5	69.2			
	Diam. of Wheel		61 in.	65.7 in.	70 in.			
10	R. P. M.		1120	1120	1120	18.3 in.	158	600.00
	Cu. Ft. Air		10000	10000	10000			
	Horse Power		65	76	87			
	Diam. of Wheel		61 in.	65.7 in.	70 in.			
11	R. P. M.		860	860	860	21.5 in.	190	850 00
	Cu. Ft. Air		12000	12000	12000			
	Horse Power		78	91	104			
	Diam. of Wheel		71 in.	77 in.	82.7 in.			
12	R. P. M.		860	860	860	22.5 in.	240	1150 00
	Cu. Ft. Air		15000	15000	15000			
	Horse Power		97	113	129			
	Diam. of Wheel		71 in.	77 in.	82.7 in.			

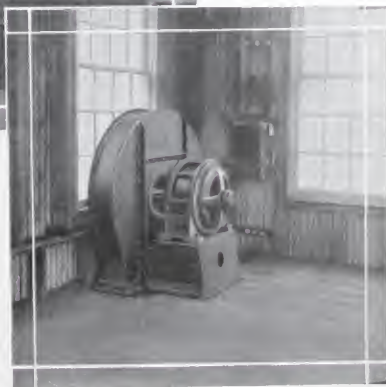
Furnished with electric motors for direct or alternating current.
Prices on receipt of particulars. Give characteristics of electric current



Buffalo Steel Plate Pressure Blowers



Foundry installation of Buffalo Electric Steel Plate Pressure Blower.



These blowers are not confined to the standard sizes listed on the foregoing page, but are built to order to suit the most exacting individual requirements.

We build them for pressures up to 24 oz., and guarantee efficiencies exceeding those of any other type, not excepting high-efficiency multi-blade fans.

It will be found that such a built-to-order fan will often be the best investment, having the advantage not only in power consumption, but also in suitability to the work to be performed. If you already have the motor we can build the fan to suit the motor speed.



BUFFALO FORGE COMPANY

Buffalo Electric Steel-Plate Fans

Furnished with any standard make motor, either direct or alternating current.



Prices quoted upon receipt of information giving sizes wanted, and kind of electric current available.

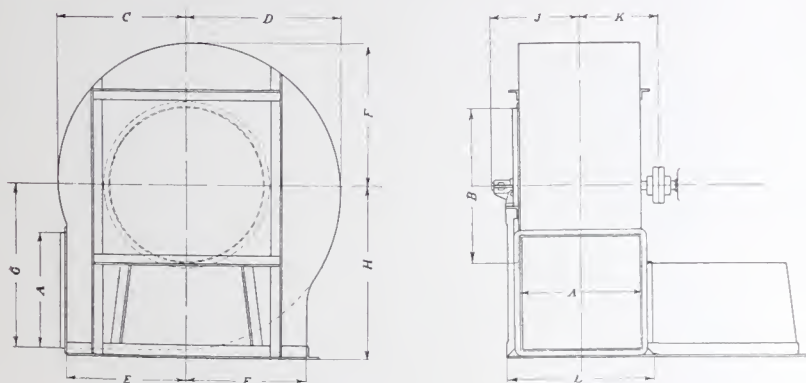
On the following pages a short extract is given of the data available on the Buffalo Fan System apparatus. This branch of engineering has developed so rapidly that there is no factory or branch of industry not using fans or blowers of some kind. Hence, our announcement is not out of place that we are prepared to act as engineers and manufacturers in designing and building fan system installations of all kinds for ventilation; heating; cooling; for drying of innumerable substances at either high or low temperatures; for mechanical forced and induced draft; ship ventilation and mine ventilation; for gas scrubbing and exhausting; smoke and dust removal; and to offer the services of a thoroughly equipped engineering department for working out these or any other problems in fan engineering.

Obviously, the majority of these fan system applications will be special, and the prices can be quoted only after receipt of full data. In this catalog we give tables for a few of the standard electric fans. Buffalo Fans are built either of the regular steel plate type or of the multi-blade design, and either full or three-quarter housing, any direction of discharge.

N.B. In the Buffalo direct-connected motor driven fans the sub-bases are built as part of the fan housing, and are made tapering with rounded corners and angle irons all around the base. They are internally braced for rigidity and the top plate is of heavy cast iron machined to receive the motor. Either an extended motor shaft is used or a bearing on the other side of the fan and a coupled shaft.



Buffalo Electric Steel Plate Fans



Right Hand Bottom Horizontal Discharge

DIMENSION TABLE.

SIZE	A	C	D	E	G	H	F	B	J	K	L
30	11 $\frac{1}{4}$	12 $\frac{3}{4}$	14 $\frac{3}{4}$	11 $\frac{7}{8}$	15 $\frac{3}{4}$	16 $\frac{1}{4}$	13 $\frac{3}{4}$	14 $\frac{7}{8}$	10 $\frac{3}{8}$	9 $\frac{1}{8}$	15 $\frac{1}{2}$
35	13 $\frac{1}{2}$	14 $\frac{1}{8}$	17 $\frac{3}{8}$	13 $\frac{7}{8}$	18 $\frac{5}{8}$	18 $\frac{1}{8}$	16 $\frac{1}{8}$	17	11 $\frac{7}{8}$	10 $\frac{1}{4}$	17 $\frac{1}{4}$
40	15	17 $\frac{1}{8}$	19 $\frac{5}{8}$	15 $\frac{1}{8}$	20 $\frac{7}{8}$	21 $\frac{5}{8}$	18 $\frac{5}{8}$	19	12 $\frac{7}{8}$	11	19 $\frac{1}{4}$
45	16 $\frac{1}{4}$	19 $\frac{1}{8}$	22 $\frac{1}{8}$	18	23 $\frac{7}{8}$	24 $\frac{5}{8}$	20 $\frac{1}{8}$	21 $\frac{5}{8}$	13 $\frac{5}{8}$	11 $\frac{5}{8}$	20 $\frac{1}{2}$
50	18 $\frac{1}{2}$	21 $\frac{1}{2}$	24 $\frac{1}{2}$	20	26	27	23	24 $\frac{3}{4}$	14 $\frac{1}{2}$	13 $\frac{1}{4}$	22 $\frac{3}{4}$
55	19 $\frac{3}{4}$	23 $\frac{1}{8}$	26 $\frac{1}{8}$	22	28 $\frac{3}{8}$	29 $\frac{1}{8}$	25 $\frac{1}{8}$	26 $\frac{3}{8}$	15 $\frac{7}{8}$	13 $\frac{7}{8}$	24
60	22 $\frac{1}{4}$	25 $\frac{7}{8}$	29 $\frac{3}{8}$	24 $\frac{1}{8}$	31 $\frac{1}{8}$	32 $\frac{3}{8}$	27 $\frac{5}{8}$	26 $\frac{7}{8}$	16 $\frac{7}{8}$	15 $\frac{1}{8}$	26 $\frac{1}{2}$
70	26	30 $\frac{1}{4}$	34 $\frac{1}{4}$	28 $\frac{3}{4}$	36 $\frac{1}{4}$	37 $\frac{3}{4}$	32 $\frac{1}{4}$	34 $\frac{1}{8}$	19 $\frac{1}{4}$	17	30 $\frac{1}{4}$
80	29 $\frac{3}{4}$	34 $\frac{3}{8}$	39 $\frac{1}{8}$	32 $\frac{3}{8}$	41 $\frac{3}{8}$	43 $\frac{1}{8}$	36 $\frac{7}{8}$	39 $\frac{1}{2}$	21 $\frac{1}{4}$	19 $\frac{3}{8}$	35
90	33 $\frac{1}{2}$	39	44	36 $\frac{1}{4}$	46 $\frac{1}{2}$	48 $\frac{1}{2}$	41 $\frac{1}{2}$	43 $\frac{3}{4}$	23 $\frac{1}{4}$	21 $\frac{1}{4}$	38 $\frac{3}{4}$
100	37 $\frac{1}{4}$	43 $\frac{3}{8}$	48 $\frac{7}{8}$	40 $\frac{5}{8}$	51 $\frac{5}{8}$	53 $\frac{7}{8}$	46 $\frac{1}{8}$	46 $\frac{1}{4}$	25 $\frac{1}{2}$	23 $\frac{1}{8}$	43 $\frac{1}{2}$
110	41	47 $\frac{3}{4}$	53 $\frac{3}{4}$	44 $\frac{3}{8}$	56 $\frac{3}{4}$	59 $\frac{1}{4}$	50 $\frac{3}{4}$	51 $\frac{3}{4}$	28	26	47 $\frac{1}{4}$
120	44 $\frac{3}{4}$	52 $\frac{1}{8}$	58 $\frac{5}{8}$	48 $\frac{7}{8}$	61 $\frac{7}{8}$	64 $\frac{5}{8}$	55 $\frac{5}{8}$	55	30 $\frac{3}{8}$	27 $\frac{7}{8}$	51
130	48 $\frac{1}{2}$	56 $\frac{1}{2}$	63 $\frac{1}{2}$	52 $\frac{1}{2}$	67	70	60	60 $\frac{3}{4}$	33	29 $\frac{3}{4}$	54 $\frac{3}{4}$
140	52 $\frac{1}{4}$	60 $\frac{7}{8}$	68 $\frac{3}{8}$	56 $\frac{3}{8}$	72 $\frac{1}{8}$	75 $\frac{5}{8}$	64 $\frac{5}{8}$	64 $\frac{3}{4}$	35 $\frac{1}{8}$	31 $\frac{5}{8}$	59 $\frac{1}{2}$
150	56	65 $\frac{1}{4}$	73 $\frac{1}{4}$	60 $\frac{5}{8}$	77 $\frac{1}{4}$	80 $\frac{3}{4}$	69 $\frac{1}{4}$	69 $\frac{1}{2}$	37 $\frac{1}{2}$	34	64 $\frac{1}{4}$

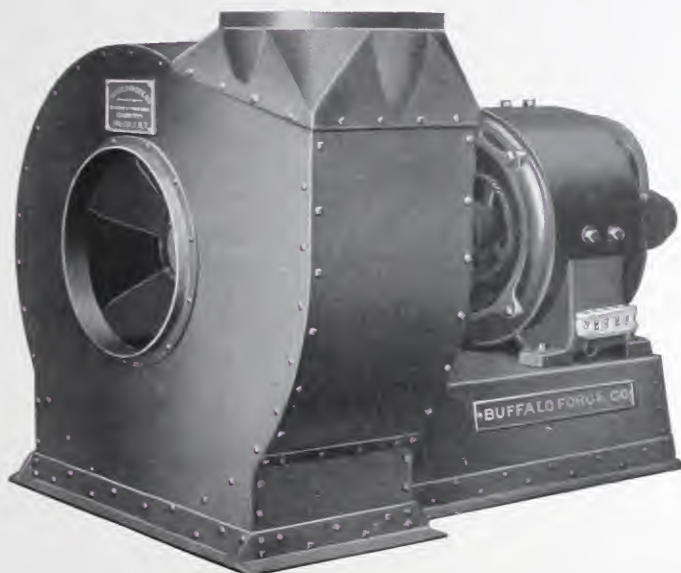


Speed of Fans and Volume of Air in Cubic Feet per Minute and Horse Powers at 50° F. Discharged Under Average Working Conditions at Various Pressures in Ounces per Square Inch. The Horse Powers are Larger Than Are Generally Required and May Be Considered Safe, Except for Extraordinary Conditions or Requirements.

20



Buffalo Standard Electric Mill Exhausters



Prominent among the applications of the Buffalo Mill Exhausters are the removal of shavings, saw-dust, and other refuse from wood-working machines, dust from emery, buffing and other abrasive wheels.

A heavier construction than the standard is recommended for emery exhaust to resist the wear.

We have special designs to meet the requirements in handling cotton, wool and similar materials; also spent tanbark and long, stringy shavings.

A special blast wheel, such as illustrated on next page, which does not catch or hold the material, is used for such purposes.

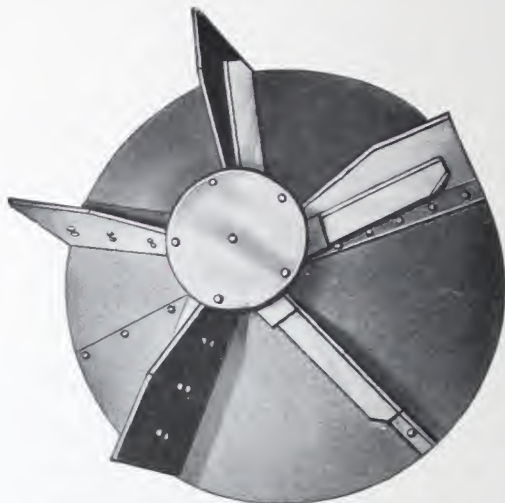
Still another application is the removal of gases or fumes from acids, smoke and gases from fires, also handling gases at high temperatures in chemical works and mine operations.

Many of these processes require fans of special material or construction. It is therefore, recommended that you send us the fullest information relative to your requirements. Our engineers will then advise you what is best suited to your needs and we will supply the equipment to satisfy them.



BUFFALO FORGE COMPANY

Buffalo Standard Electric Mill Exhausters



Wheel for Handling Stringy Material

A very rugged and strong construction characterizes both the housing and fan wheel, and the latter has also been the object of several successive improvements in design with a view to increasing the efficiency. The Buffalo Mill Exhausters will therefore be found to effect considerable power savings in almost every case.

The housing is of heavy, rolled steel plate, securely bolted together and braced in a manner so that the free movement of material is not interfered with. The smoothness of the interior of the fan is, in fact, a noteworthy feature of the Buffalo fan, and has a favorable effect on the power consumption.

The blast wheel consists of a heavy spider or hub into which strong tee-iron spokes are cast. Upon the latter the blades proper are mounted, these being of heavy steel plate and riveted on. They are further reinforced by the rigid steel plate side flanges.



View of Housing and Fan



Buffalo Standard Electric Mill Exhausters



Buffalo Double Oil-Ring Bearing

The balance of the wheel is accomplished by a special method with apparatus used only in our shops, by which it is possible to bring the center of gravity to correspond more closely with the center of rotation than by any standard method. Exceptionally true, smooth running is thereby accomplished.

Before shipment every fan is tested for balance and for strength far beyond that required.

Buffalo Exhausters are built for the hardest service. Close examination of every detail and comparison is invited, because it is our conviction that no fan today is as well designed and constructed as the Buffalo.

In the matter of proportions and design, the high efficiency of these fans is the best proof of their superiority.

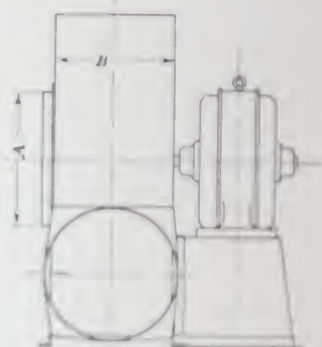
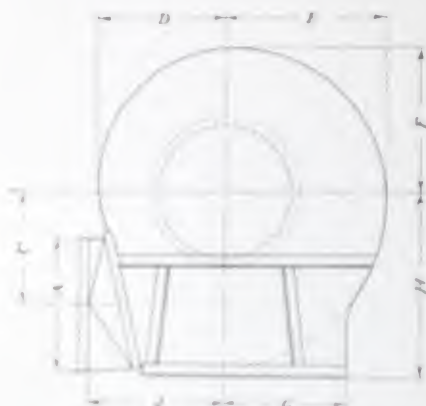
TABLE OF SPEEDS, CAPACITIES AND HORSE POWER

Size	1 Oz.			2 Oz.			3 Oz.		
	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.
30	1025	1650	.90	1450	2340	2.55	1775	2850	4.65
35	890	2300	1.25	1260	3250	3.53	1540	3975	6.48
40	770	3000	1.63	1090	4250	4.60	1334	5190	8.40
45	690	3825	2.08	976	5410	5.95	1195	6620	10.78
50	622	4750	2.58	880	6720	7.28	1078	8220	13.38
55	570	5750	3.12	806	8120	8.83	987	9950	16.25
60	520	6900	3.75	735	9750	10.60	900	11950	19.50
70	450	9400	5.10	637	13300	14.50	780	16300	26.60
80	390	12200	6.63	552	17280	18.75	676	21200	34.50
Size	4 Oz.			5 Oz.			6 Oz.		
	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.	R. P. M.	Cap.	H. P.
30	2050	3300	7.20	2290	3680	10.05	2510	4040	13.32
35	1780	4600	10.00	1990	5140	13.92	2180	5630	18.35
40	1540	6000	13.00	1722	6700	18.15	1888	7350	23.85
45	1380	7650	16.60	1542	8550	23.20	1690	9350	30.40
50	1245	9500	20.60	1391	10600	28.80	1525	11620	37.90
55	1140	11500	25.00	1275	12850	34.90	1398	14080	45.80
60	1040	13800	30.00	1162	15400	41.90	1273	16900	55.00
70	900	18800	40.90	1005	21000	56.90	1100	23000	75.00
80	780	24400	53.00	872	27300	74.00	956	29850	97.20



BUFFALO FORGE COMPANY

Buffalo Standard Electric Mill Exhausters



When a standard motor is used, an oil ring bearing as shown on foregoing page is provided between the motor and the fan, as the motor is then coupled to the fan shaft. An even more desirable arrangement is to overhang the fan wheel on an extended motor shaft, a special motor shaft being required in the latter case.

PRINCIPAL DIMENSIONS

Size	A	B	C	D	E	F	G	H	I	J	Speed	H.P.	A. P. M. at 4 in. Press.
30	12	11½	12	15	13½	11½	18	11	13	2050	7.25	3,300	
32	14	12¾	13¾	17¾	15¾	13	20¾	13¾	15¾	1780	10.	4,600	
40	16	14¾	16	20	18	15	24	15¾	16¾	1540	13.	6,000	
45	18	16¾	17¾	22¾	20¾	17	26¾	16¾	19¾	1380	16.5	7,650	
50	20	18¾	19¾	24¾	22¾	19	29¾	18¾	21¾	1245	20.5	9,500	
55	22	19¾	21¾	27¾	24¾	20½	32	19½	23	1140	24.8	11,500	
60	24	21¾	23¾	29¾	26¾	22	35	22¾	25	1040	29.8	13,800	
70	28	25¾	27¾	34¾	31	26	39¾	25¾	28¾	900	40.5	18,800	
80	32	28¾	31¾	39¾	35½	30	45½	29¾	32½	780	52.5	24,400	



Buffalo Electric Slow Speed Mill Exhauster

Contrary to the very common belief, slow speed in itself does not insure higher efficiency in a fan. The reverse is, in fact, very often the case. It does, however, decrease wear and tear and vibration, and the Buffalo Slow Speed Mill Exhausters would therefore be a desirable investment even if they were no more efficient than high speed fans.

It follows that higher efficiency is not necessarily obtained by building a special blast wheel, enclosed in a standard housing, with a view to obtaining slow speed. This, however, is a very common practice, and most so-called Slow Speed fans belong to this class, despite the extravagant claims that are often made for them.

Manufacturers who actually build a Slow Speed fan always attempt, along with the slow speed, to make other improvements in the design to obtain better efficiency.

It has long been recognized by fan builders, or at least by those who do any experimental work, that the ordinary proportions of mill exhausters are conducive to large capacity rather than high efficiency.

We believe, and the results we have obtained support our statement, that we have gone into this question more thoroughly than any other manufacturer.

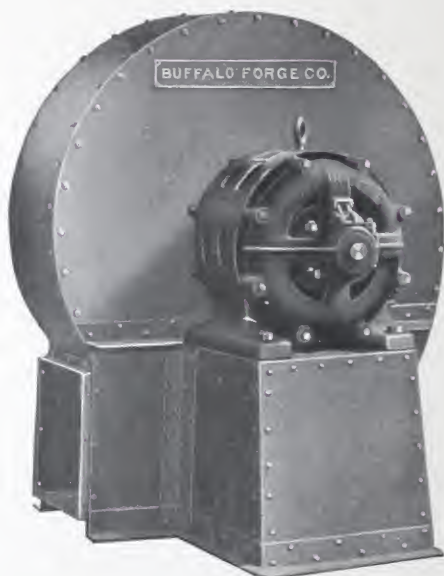
Instances are on record, in which, by virtue of our engineering service on one hand, and the high efficiency on our Slow Speed fans on the other, the power consumption has actually been cut in two. Although the fan itself cannot be given credit for savings as high as this, the efficiency of the fan is still more than sufficient to make its purchase attractive.

For instance, a 40-inch Buffalo *Slow Speed* fan, operating at 4 oz. of pressure, requires 10 H. P. A *Standard* 40-inch fan, to give the same pressure, requires 13 H. P., a saving in favor of the former of 3 H. P., which would be equivalent to about \$75.00 per year, or enough to pay for the fan inside of two years.



BUFFALO FORGE COMPANY

Buffalo Slow Speed Electric Mill Exhausters



A heavy, steel plate cone takes the place of the spider commonly used to support the vanes or blades. The advantages of this construction are apparent. The apex of the cone is at the inlet. The material entering the fan strikes the cone and its direction is gradually changed, without the loss of momentum due to sudden changes in direction. The cone, being perfectly smooth, offers no obstruction to the free passage of the material.

The blast wheel is of large diameter and comparatively narrow width; the inlet is small in proportion to the size of the housing. For instance, our 50-inch slow speed fan has the same size inlet pipe as the ordinary 50-inch fan, but the housing is actually about 70 inches high. The horsepower and speed are as given in the table on next page, the figures in which are conservative.

The blades are not curved forward as in other makes, since this tends to clog up the wheel and to limit its usefulness in conveying material; nor is the wheel obstructed by an unnecessary number of blades, which are of no benefit.



Buffalo Slow Speed Electric Mill Exhausters



It is significant that an increasing number of manufacturers, by looking into the matter, are finding it a saving to throw away their present fans, installed with their blow pipe systems, and replacing them with Slow Speed "Buffalo" Fans.

The standard blast wheel used for these fans is illustrated herewith. For special duties, such as handling shavings and other material which is liable to become clogged in the fan, a special blast wheel is furnished.

Speeds, Capacities and Horsepower

SIZE	1 OZ.			2 OZ.			3 OZ.		
	R.P.M.	CAP.	H. P.	R.P.M.	CAP.	H. P.	R.P.M.	CAP.	H. P.
30	640	1650	.75	906	2340	2.12	1110	2850	3.87
35	552	2300	1.04	781	3250	2.94	958	3975	5.40
40	482	3000	1.36	682	4250	3.83	837	5190	7.00
45	428	3825	1.73	605	5410	4.96	742	6620	8.97
50	385	4750	2.15	544	6720	6.06	667	8220	11.10
55	350	5750	2.60	494	8120	7.35	606	9950	13.50
60	321	6900	3.12	453	9750	8.83	556	11950	16.20
70	275	9400	4.25	387	13300	12.10	477	16300	22.10
80	241	12200	5.52	341	17280	15.60	418	21200	28.70

SIZE	4 OZ.			5 OZ.			6 OZ.		
	R.P.M.	CAP.	H. P.	R.P.M.	CAP.	H. P.	R.P.M.	CAP.	H. P.
30	1280	3300	6.00	1428	3680	8.37	1570	4040	11.10
35	1100	4600	8.32	1230	5140	11.59	1350	5630	15.25
40	965	6000	10.80	1075	6700	15.10	1180	7350	19.84
45	855	7650	13.80	955	8550	19.3	1050	9350	25.30
50	769	9500	17.12	860	10600	24.0	942	11620	31.50
55	698	11500	20.80	782	12850	32.8	856	14080	38.10
60	641	13800	25.00	718	15400	39.1	786	16900	45.80
70	550	18800	34.10	613	21000	47.3	674	23000	62.40
80	482	24400	44.20	570	27300	61.7	590	29850	81.00

PRINCIPAL DIMENSIONS

Size Fan	Diameter Inlet	Size Outlet	Maximum Height	Diameter Pulley	Face Pulley	Weight
30	12 1/2	11 3/4 x 9 3/4	41 3/4	8	5	425
35	14 3/4	13 3/4 x 11 1/2	48 3/4	9	6	500
40	16 3/4	15 3/4 x 13 1/4	55 3/4	10	7	650
45	18 3/4	17 3/4 x 14 3/4	62 3/4	11	8	1000
50	20 3/4	19 3/4 x 16 3/4	69 3/4	12	9	1300
55	22 3/4	21 3/4 x 18 3/4	75 3/4	13	10	1600
60	24 3/4	21 3/4 x 19 3/4	82 3/4	14	11	1900
70	28 3/4	27 x 23	96 3/4	16	12	2450
80	32 3/4	30 3/4 x 26 1/4	110 3/4	20	14	3000



BUFFALO FORGE COMPANY

Buffalo Electric Disk Fans



Electric Disk Fan. This style made in three sizes, viz.: 18 in., 24 in. and 30 in. listed below.

Buffalo Electric Disk Fans are of the most advanced type of disk wheel construction, and, owing to their compactness, can be installed in places where otherwise it would be impossible to secure ventilation.

The motor is secured to the frame of the disk wheel by means of a bracket on the smaller sizes and by a tripod in sizes from 36 inches and up. No floor space or supports are necessary. Just bolt the frame to an opening in the wall or in a window, connect the wires and you have, at once, the most compact and efficient ventilating system available.

In manufacturing establishments the Disk Fan can be applied with excellent results to a great variety of purposes.

In the finishing rooms it removes the noxious fumes from paints, oils, varnishes and other finishing materials.

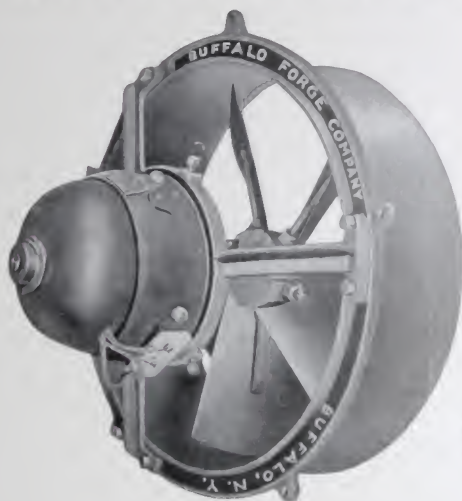
The above style is made in three sizes, as listed here.
Larger sizes on next page.

Electric Disk Fans				Direct Current		Alternating Current 1, 2, 3, phase, 60-cycle	
Size	Voltage of Motors	Cubic Ft. Air Per Minute	Approx. Weight Complete	Speed R.P.M.	List Prices	Speed R.P.M.	List Prices
18 in.	110-220	2200	125 lbs.	1000	\$ 90.00	1120	\$110.00
24 in.	110-220	4000	200 lbs.	900	112.50	850	160.00
30 in.	110-220	6200	300 lbs.	800	140.00	850	230.00

NB. Starting rheostats are not required.



Buffalo Electric Disk Fans



Buffalo Disk Wheel with Peerless Motor. This style is made in sizes from 36 in. and up.

In manufacturing processes it removes dust, lint, steam and overheated air and keeps the efficiency of the men at a high point.

In boiler and engine rooms, lavatories, etc., it removes the excessive heat and foul air better and at less cost than any other device.

In hotels, restaurants, department stores, theatres, and other public places, the Disk Fan can easily be installed so as to be completely concealed, without affecting its efficiency.

In such places no more efficient remedy could be devised for the comfort of patrons and employes than the Disk Fan. Its operation is noiseless, and no attention is required except occasional oiling.

Tell us the size of the room you want to ventilate and the conditions, and we will recommend a suitable outfit.

LARGE SIZES

Fitted with Direct Current Motors. General Electric or Peerless Makes.

Size	Volt. of Motor	Speed R. P. M.	Cu. Ft. of Air per Min.	Weight Complete	List Price Gen. Electric	List Price Peerless
36 in.	110	525	8800	450 lbs.	\$320.00	\$300.00
	220	525	8800	450 lbs.	327.50	310.00
	500	525	8800	450 lbs.	337.50	320.00
42 in.	110	450	12000	625 lbs.	412.50	400.00
	220	450	12000	625 lbs.	425.00	410.00
	500	450	12000	625 lbs.	437.50	425.00
48 in.	110	400	18000	800 lbs.	495.00	487.50
	220	400	18000	800 lbs.	512.00	500.00
	500	400	18000	800 lbs.	525.00	512.50

Prices include starting rheostats. A speed regulator giving up to 50 per cent. variation, can be furnished at slight additional cost.



BUFFALO FORGE COMPANY

Buffalo Electric Disk Fans

Installation in
pantry of a
restaurant.



Installation in
rear of one of
Hayler's Buffalo
stores.

Application

The function of a Disk Fan should not be mistaken for that of an ordinary electric fan.

The latter only stirs the air—appeals to your imagination, as it were, without lowering the temperature or giving even the slightest amount of ventilation.

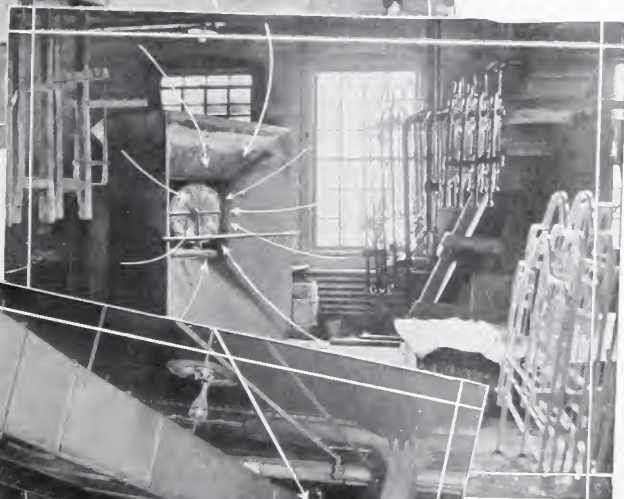
A "Buffalo" Disk Fan gives real ventilation.

Open windows and doors are remarkably ineffective in procuring natural ventilation, because the free movement of air depends on the difference in temperature as between the inside and outside. In summer—when ventilation is needed the most—this difference is too small to be effective.

BUFFALO FORGE COMPANY



Factory
Work Room.



Finishing
Room of
Bed Manu-
facturing
Plant.



Restaurant
Kitchen.

Installation of Buffalo Disk and Propeller Fans.



BUFFALO FORGE COMPANY

Buffalo Electric Propeller Fans

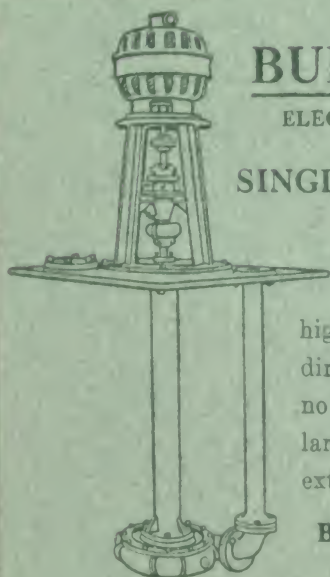


The uses of the Buffalo Propeller fans are essentially the same as of the Disk Fans described on the foregoing pages. The propeller fans are used in preference to the latter where the space available for the fan is so small that it becomes a matter of obtaining a fan of the smallest possible dimensions.

In this respect a Buffalo Propeller Fan is unequalled. Its capacity, size for size, is from 25% to 40% greater than that of a disk fan. This higher capacity has been obtained by the peculiar propeller-like design of the blades.

The angle and curvature of the blades is correct, causing the air to pass through the fan in a direction parallel to its axis, with uniform velocity throughout the entire area. Back flow is impossible, even though the delivery is against pressure.

Size	Voltage of Motor	R. P. M.	Cu. Ft. of Air Per Minute	Approx. Wt. Complete	List Price Gen. Electric	List Price Peerless
18	110	800	2850	200 lbs.	\$160.00	\$155.00
	220	800		200 lbs.	165.00	162.50
	500	800		200 lbs.	170.00	170.00
24	100	650	5120	300 lbs.	195.00	182.50
	220	650		300 lbs.	200.00	190.00
	500	650		300 lbs.	205.00	195.00
30	110	525	8100	450 lbs.	240.00	235.00
	220	525		450 lbs.	245.00	240.00
	500	525		450 lbs.	250.00	247.50
36	110	425	11350	625 lbs.	385.00	360.00
	220	425		625 lbs.	395.00	372.50
	500	425		625 lbs.	405.00	385.00



BUFFALO PUMPS

ELECTRIC STEAM PULLEY

**SINGLE, DUPLEX, TRIPLEX,
CENTRIFUGAL**

The Drawing shows one of our high-class, vertical shaft sump pumps, direct connected to motor. There is no pumping requirement, small or large, that we cannot meet with our extensive line.

**BUFFALO STEAM PUMP CO.
BUFFALO, N. Y.**

(Associated with the Buffalo Forge Co.)

